TEST REPORT

Report Number: R14321459-E1

Applicant	:	iRobot Corporation 8 Crosby Dr Bedford, MA 01730, USA
Model	:	RCA-Y1
FCC ID	:	UFE-RCAY1
IC	:	6652A-RCAY1
EUT Description	:	Automated robot vacuum
Test Standard(s)	:	FCC 47 CFR PART 15 SUBPART C:2022 ISED RSS-210 ISSUE 10 + A1 Annex B:2020 ISED RSS-GEN ISSUE 5 + A2: 2021

Date Of Issue:
2022-06-28

Prepared by:
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ACCREDITED
CERT #0751.06

REVISION HISTORY

Ver.	Issue Date	Revisions	Revised By
1	2022-06-28	Initial Issue	Brian Kiewra

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME:	iRobot Corporation 8 Crosby Dr Bedford, MA 01730, USA
EUT DESCRIPTION:	Automated robot vacuum
MODEL:	RCA-Y1
SERIAL NUMBER:	TSP 715, Y115020B220301E103511
SAMPLE RECEIPT DATE:	2022-05-20
DATE TESTED:	2022-05-23 to 2022-06-06

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
FCC PART 15 SUBPART C : 2022	Refer to Section 2
ISED RSS-210 Issue 10 + A1, Annex B: 2020	Refer to Section 2
ISED RSS-GEN Issue 5 + A2: 2021	Refer to Section 2

This report contains data provided by the applicant which can impact the validity of results. UL LLC is only responsible for the validity of results after the integration of the data provided by the customer.

UL LLC tested the above equipment in accordance with the requirements set forth in the above standards. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

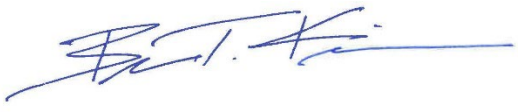
The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. It is the manufacturer's responsibility to assure that additional production units of this model are manufactured with identical electrical and mechanical components. All samples tested were in good operating condition throughout the entire test program. Measurement Uncertainties are published for informational purposes only and were not taken into account unless noted otherwise.

This document may not be altered or revised in any way unless done so by UL LLC and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL LLC will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by A2LA, NIST, or any agency of the U.S. Government.

Approved & Released
For UL LLC By:

Michael Antola
Staff Engineer
Consumer, Medical, and IT Segment
UL LLC

Prepared By:



Brian Kiewra
Project Engineer
Consumer, Medical, and IT Segment
UL LLC

2. TEST RESULTS SUMMARY

This report contains data provided by the applicant which can impact the validity of results. UL LLC is only responsible for the validity of results after the integration of the data provided by the customer.

FCC Clause	ISED Clause	Requirement	Result	Comment
NA, tested to C63.10 Sections 6.9.2 and 6.9.3		Occupied Bandwidth	Compliant	None
15.209, 15.225(a) - (d)	RSS-GEN 8.9 RSS-210 Annex B.6(a)	Radiated Emissions	Compliant	None
15.207	RSS-GEN 8.8	AC Mains Line Conducted Emissions	Compliant	None
15.225 (e)	RSS-210 Annex B.6(b)	Frequency Tolerance	Compliant	None

3. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.10-2013, KDB 174176, FCC CFR 47 Part 2, FCC CFR 47 Part 15: 2021, RSS-GEN Issue 5 + A2:2021, and RSS-210 Issue 10 Annex B: 2019.

4. FACILITIES AND ACCREDITATION

UL LLC is accredited by A2LA, certification # 0751.06, for all testing performed within the scope of this report. Testing was performed at the locations noted below.

	Address	ISED CABID	ISED Company Number	FCC Registration
☐	Building: 12 Laboratory Dr RTP, NC 27709, U.S.A	US0067	2180C	825374
☒	Building: 2800 Perimeter Park Dr. Suite B Morrisville, NC 27560, U.S.A		27265	

5. DECISION RULES AND MEASUREMENT UNCERTAINTY

5.1. METROLOGICAL TRACEABILITY

All test and measuring equipment utilized to perform the tests documented in this report are calibrated on a regular basis, with a maximum time between calibrations of one year or the manufacturers' recommendation, whichever is less, and where applicable is traceable to recognized national standards.

5.2. DECISION RULES

The Decision Rule is based on Simple Acceptance in accordance with ISO Guide 98-4:2012 Clause 8.2. (Measurement uncertainty is not taken into account when stating conformity with a specified requirement.)

5.3. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

PARAMETER	UNCERTAINTY
Radio Frequency (Spectrum Analyzer)	141.2 Hz
Occupied Channel Bandwidth	1.22%
All emissions, radiated	6.01 dB
Conducted Emissions (0.150-30MHz) - LISN	3.40 dB
Temperature	0.57°C
Humidity	3.39%
DC Supply voltages	1.70%
Time	3.39%

Uncertainty figures are valid to a confidence level of 95%.

5.4. SAMPLE CALCULATION

RADIATED EMISSIONS

Where relevant, the following sample calculation is provided:
Field Strength (dBuV/m) = Measured Voltage (dBuV) + Antenna Factor (dB/m) + Cable Loss (dB) – Preamp Gain (dB)
36.5 dBuV + 18.7 dB/m + 0.6 dB – 26.9 dB = 28.9 dBuV/m

MAINS CONDUCTED EMISSIONS

Where relevant, the following sample calculation is provided:
Final Voltage (dBuV) = Measured Voltage (dBuV) + Cable Loss (dB) + Limiter Factor (dB) + LISN Insertion Loss.
36.5 dBuV + 0 dB +10.1 dB+ 0 dB = 46.6 dBuV

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6. EQUIPMENT UNDER TEST

6.1. DESCRIPTION OF EUT

The EUT is a an automated robot vacuum.

6.2. MAXIMUM OUTPUT POWER

The transmitter has a maximum peak radiated magnetic field strength as follows:

Fundamental Frequency (MHz)	E-field (30m distance) (dBuV/m)
13.56	20.45

6.3. SOFTWARE AND FIRMWARE

The EUT firmware installed during testing was stingray+2022-05-17-rgrimes-MPSW-664-create-special-sapphire-ota-that-will-not-update-dock-software-096362bb4c7+PR-37719+1

6.4. WORST-CASE CONFIGURATION AND MODE

The EUT operates in only one orientation in the field; therefore all final radiated emissions were performed with the EUT in its intended orientation.

All testing performed with and without tag with the exception of frequency tolerance which was perfomed without tag as worst-case.

6.5. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	**Manufacturer**	**Model**	**Serial Number**	**FCC ID**
Laptop	Lenovo	T450	PC- 0A2UQS	PD97265NGU
Charging Dock	iRobot	ADI-N1	BYD-J-220306-02055; BYD-J-210318-00138	NA

I/O CABLES

I/O Cable List						
Cable No.	**Port**	**# of Identical Ports**	**Connector Type**	**Cable Type**	**Cable Length (m)**	**Remarks**
1	1	1	Hardwired	Mains	<3m	Connects to AC mains.

SETUP DIAGRAM

Refer to exhibit R14321459-EP1 for setup diagram.

7. TEST AND MEASUREMENT EQUIPMENT

The following test and measurement equipment was utilized for the tests documented in this report:

Test Equipment Used - Wireless Conducted Measurement Equipment

Equipment ID	Description	Manufacturer/Brand	Model Number	Last Cal.	Next Cal.
HI0091	Environmental Meter	Fisher Scientific	15-077-963	2021-07-12	2022-07-12
SA0025	Spectrum Analyzer	Keysight Technologies	N9030A	2022-05-02	2023-05-02
207726	Temp/Humid Chamber	Thermotron	SM-32-8200	2022-01-23	2023-01-23
NA	Near Field Probe Kit	EMCO	7405	NA	NA
SOFTEMI	Antenna Port Software	UL	Version 2022.4.26		

Test Equipment Used - Line-Conducted Emissions – Voltage (Morrisville – Conducted 1)

Equipment ID	Description	Manufacturer	Model Number	Last Cal.	Next Cal.
CBL087	Coax cable, RG223, N-male to BNC-male, 20-ft.	Pasternack	PE3W06143-240	2022-04-05	2023-04-05
HI0091	Environmental Meter	Fisher Scientific	15-077-963	2021-07-12	2022-07-12
LISN001	LISN, 50-ohm/50-uH, 2-conductor, 25A	Fischer Custom Com.	FCC-LISN-50-25-2-01-550V	2021-08-16	2022-08-16
75141	EMI Test Receiver 9kHz-7GHz	Rohde & Schwarz	ESCI 7	2021-08-17	2022-08-17
ATA222	Transient Limiter, 0.009-100MHz	Electro-Metrics	EM-7600	2022-04-05	2023-04-05
SOFTEMI	EMI Software	UL	Version 9.5 (18 Oct 2021)		

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Test Equipment Used - Radiated Disturbance Emissions Test Equipment (Morrisville – Chamber 4)

Equipment ID	Description	Manufacturer/Brand	Model Number	Last Cal.	Next Cal.
0.009-30MHz					
AT0079	Active Loop Antenna	ETS-Lindgren	6502	2021-08-19	2022-08-19
30-1000 MHz					
AT0081	Hybrid Broadband Antenna	Sunol Sciences Corp.	JB3	2021-12-08	2022-12-08
Gain-Loss Chains					
C4-SAC01	Gain-loss string: 0.009-30MHz	Various	Various	2021-05-07	2022-05-31
C4-SAC02	Gain-loss string: 25-1000MHz	Various	Various	2021-05-07	2022-05-31
Receiver & Software					
206496	Spectrum Analyzer	Rohde & Schwarz	ESW44	2022-02-15	2023-02-15
SOFTEMI	EMI Software	UL	Version 9.5 (18 Oct 2021)		
Additional Equipment used					
s/n 210701942	Environmental Meter	Fisher Scientific	15-077-963	2021-8-16	2023-08-16
PS215	AC Power Source	Elgar	CW2501M (s/n 1523A02397)	NA	NA

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8. OCCUPIED BANDWIDTH AND 20dB BANDWIDTH

LIMITS

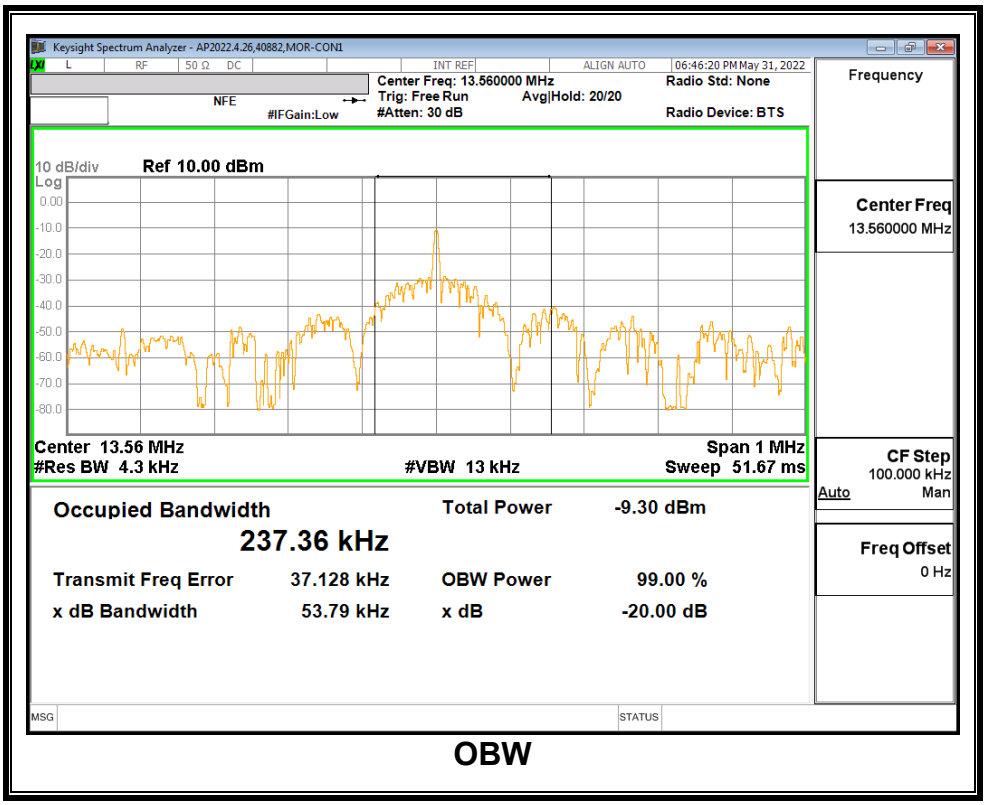
§15.215 (c)
Intentional radiators operating under the alternative provisions to the general emission limits, as contained in §§ 15.217 through 15.257 and in subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated.

TEST PROCEDURE

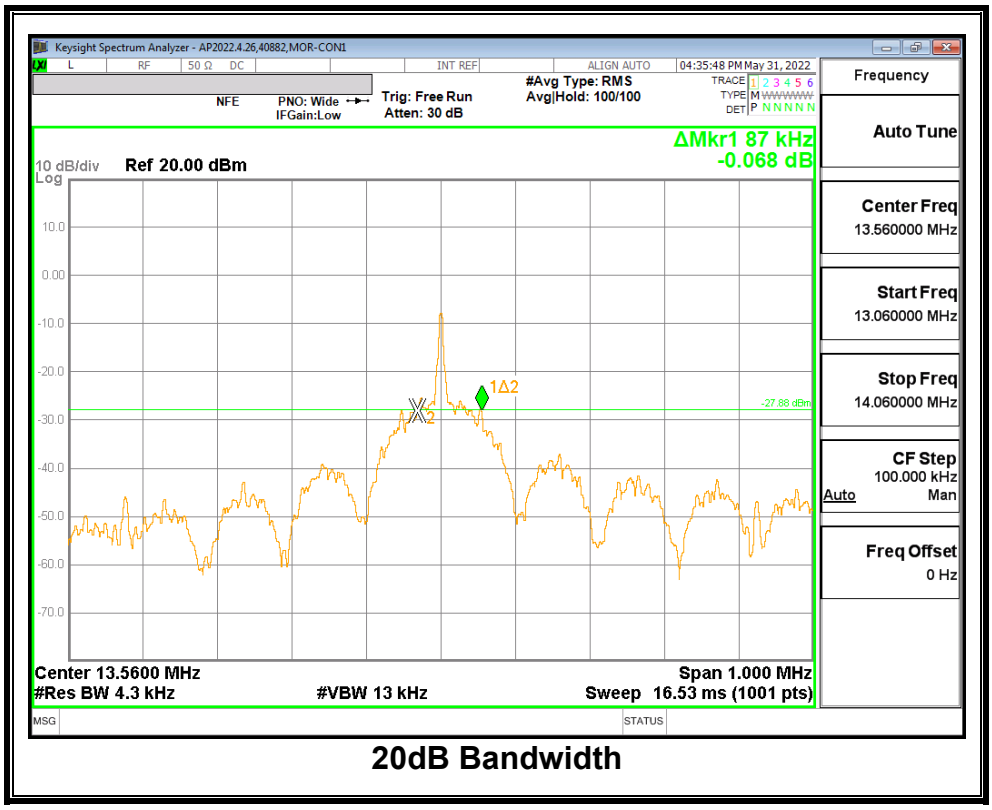
The transmitter output is connected to the spectrum analyzer. The RBW is set to 1-5% of the OBW. The VBW is set to 3 times the RBW. The sweep time is coupled. The spectrum analyzer internal 99% bandwidth and x dB bandwidth functions are utilized.

RESULTS

Frequency (MHz)	99% Bandwidth (kHz)	20dB Bandwidth (kHz)
13.56	237.36	87



OBW



20dB Bandwidth

9. RADIATED EMISSION TEST RESULTS

9.1. LIMITS AND PROCEDURE

LIMIT

§15.225
IC RSS-210, Annex B.6
IC RSS-GEN, Section 8.9 (Transmitter)

(a) The field strength of any emissions within the band 13.553–13.567 MHz shall not exceed 15,848 microvolts/ meter at 30 meters.

(b) Within the bands 13.410–13.553 MHz and 13.567–13.710 MHz, the field strength of any emissions shall not exceed 334 microvolts/meter at 30 meters.

(c) Within the bands 13.110–13.410 MHz and 13.710–14.010 MHz the field strength of any emissions shall not exceed 106 microvolts/meter at 30 meters.

(d) The field strength of any emissions appearing outside of the 13.110– 14.010 MHz and shall not exceed the general radiated emission limits in § 15.209 as follows:
§15.209 (a) Except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Limits for radiated disturbance of an intentional radiator		
Frequency range (MHz)	Limits (µV/m)	Measurement Distance (m)
0.009 – 0.490	2400 / F (kHz)	300
0.490 – 1.705	24000 / F (kHz)	30
1.705 – 30.0	30	30
30 – 88	100**	3
88 - 216	150**	3
216 – 960	200**	3
Above 960	500	3

Limits for radiated disturbance of an intentional radiator		
Frequency range (MHz)	Limits (µA/m)	Measurement Distance (m)
0.009 – 0.490	6.37 / F (kHz)	300
0.490 – 1.705	63.7 / F (kHz)	30
1.705 – 30.0	0.08	30
Frequency range (MHz)	Limits (µV/m)	Measurement Distance (m)
30 – 88	100	3
88 - 216	150	3
216 – 960	200	3
Above 960	500	3

** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g. §§ 15.231 and 15.241.
§15.209 (b) In the emission table above, the tighter limit applies at the band edges.

Formula for converting the filed strength from uV/m to dBuV/m is:
Limit (dBuV/m) = 20 log limit (uV/m)

Note: The limits in CFR 47, Part 15, Subpart C, paragraph 15.209(a), are identical to those in RSS-Gen section 8.9, Table 6, since the measurements are performed in terms of magnetic field strength and converted to electric field strength levels (as report in the table) using free space impedance of 377 Ohms. For example, the measurement at frequency X kHz resulted in a level of Y dBuV/m, which is equivalent to Y-51.5 = Z dBuA/m, which has the same margin, W dB to the corresponding RSS-Gen Table 6 limit as it has to 15.209(a) limit.

In addition:

§15.209 (d) The emission limits shown the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emissions limits in these three bands are based on measurements employing an average detector.

§15.209 (d) The provisions in §§ 15.225, measuring emissions at distances other than the distances specified in the above table, determining the frequency range over which radiated emissions are to be measured, and limiting peak emissions apply to all devices operated under this part.

TEST PROCEDURE

ANSI C63.10, 2013

The EUT is an intentional radiator that incorporates a digital device, the highest fundamental frequency generated or used in the device is 13.56 MHz; therefore, the frequency range was investigated from 0.15 MHz to the 10th harmonic of the highest fundamental frequency, or 1000 MHz, whichever is greater.

9.2. FUNDAMENTAL EMISSIONS – NO TAG

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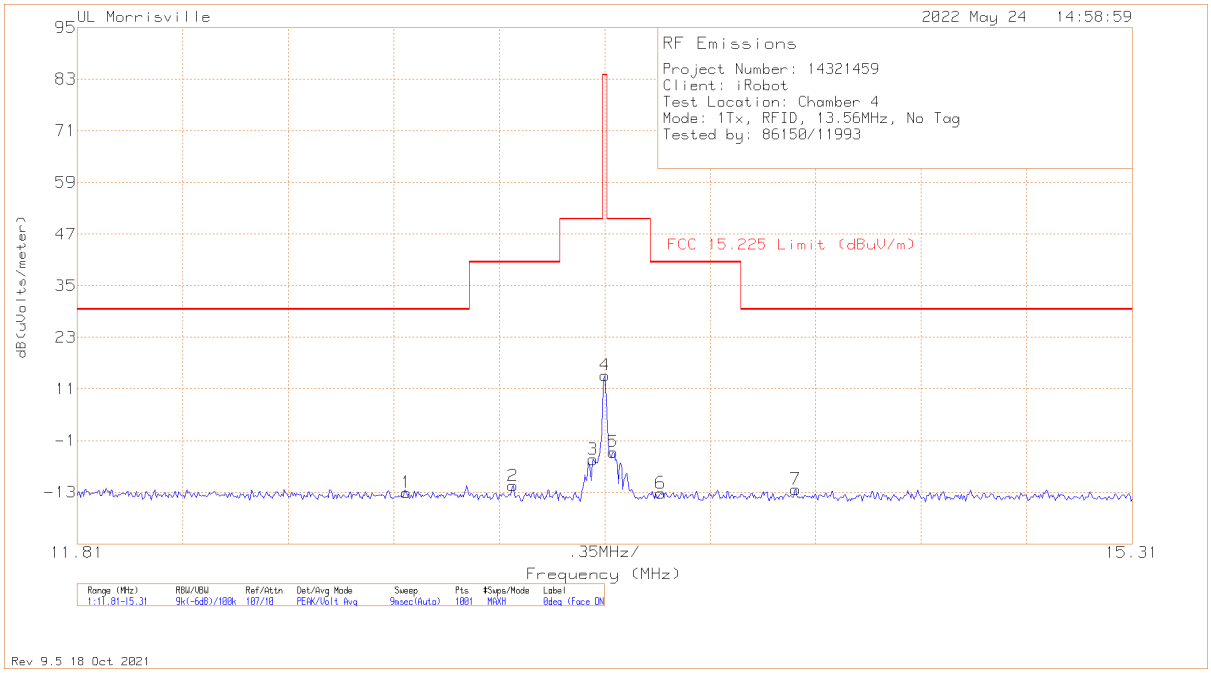

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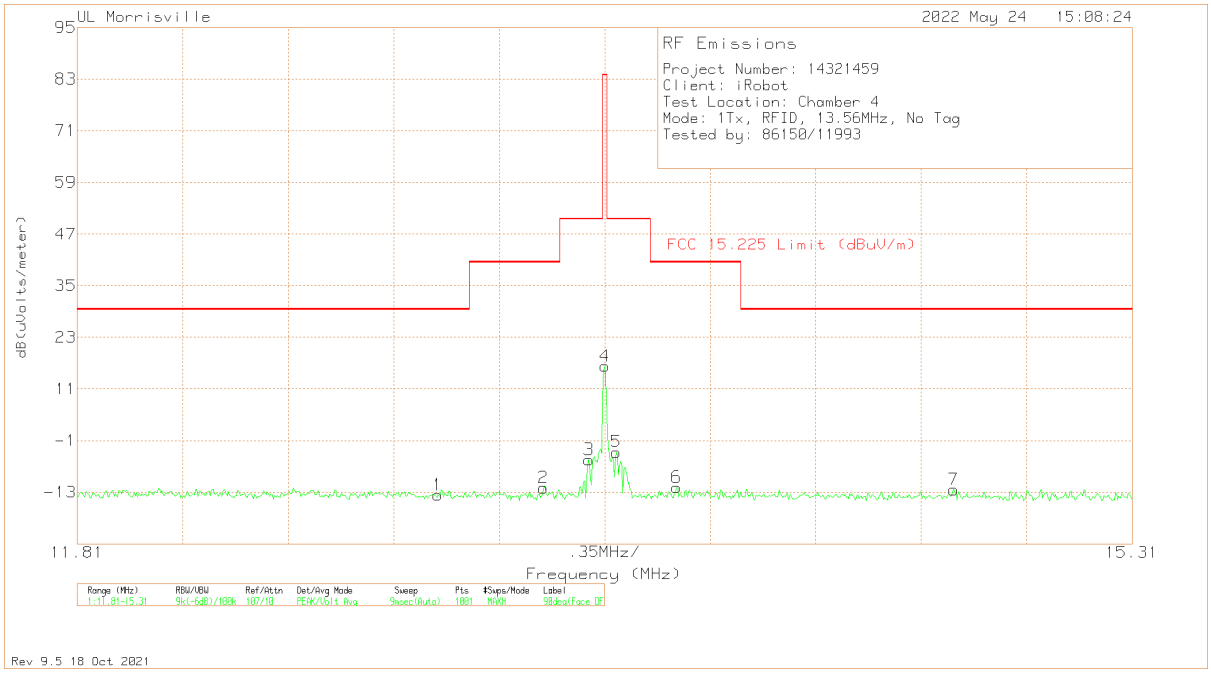
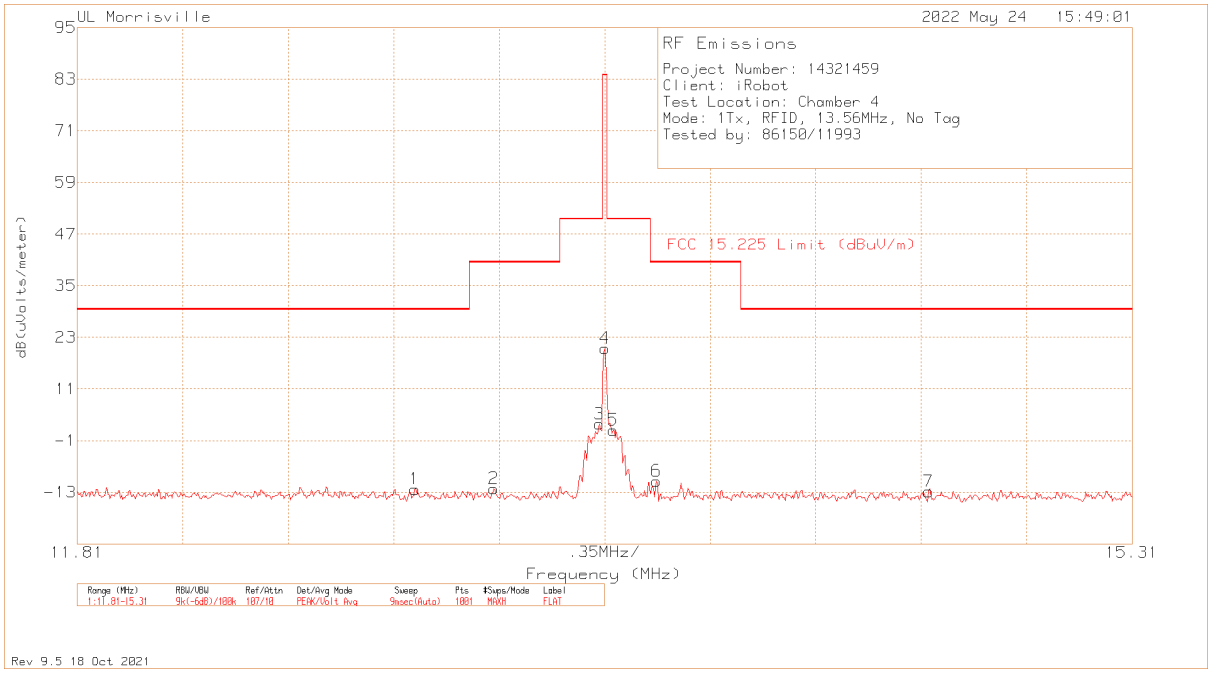


ANTENNA LOOP FLAT



Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AT0079 (dB/m)	Gain/Loss (dB)	Dist. Corr. Factor (dB)	Corrected Reading dB(uVolts/meter)	FCC 15.225 Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Loop Angle
1	12.902	15.95	Pk	10.3	.7	-40	-13.05	29.5	-42.55	151	100	0 degs
2	13.2555	17.61	Pk	10.2	.7	-40	-11.49	40.5	-51.99	151	100	0 degs
3	13.5215	23.74	Pk	10.2	.7	-40	-5.36	50.5	-55.86	151	100	0 degs
4	13.56	43.31	Pk	10.2	.7	-40	14.21	84	-69.79	151	100	0 degs
5	13.588	25.46	Pk	10.2	.7	-40	-3.64	50.5	-54.14	151	100	0 degs
6	13.7455	15.9	Pk	10.2	.7	-40	-13.2	40.5	-53.7	151	100	0 degs
7	14.1935	16.89	Pk	10.1	.7	-40	-12.31	29.5	-41.81	151	100	0 degs
1	13.007	15.46	Pk	10.2	.7	-40	-13.64	29.5	-43.14	171	100	90 degs
2	13.357	17.14	Pk	10.2	.7	-40	-11.96	40.5	-52.46	171	100	90 degs
3	13.5075	23.66	Pk	10.2	.7	-40	-5.44	50.5	-55.94	171	100	90 degs
4	13.56	45.39	Pk	10.2	.7	-40	16.29	84	-67.71	171	100	90 degs
5	13.5985	25.46	Pk	10.2	.7	-40	-3.64	50.5	-54.14	171	100	90 degs
6	13.798	17.36	Pk	10.1	.7	-40	-11.84	40.5	-52.34	171	100	90 degs
7	14.7185	16.92	Pk	10	.7	-40	-12.38	29.5	-41.88	171	100	90 degs
1	12.93	16.83	Pk	10.2	.7	-40	-12.27	29.5	-41.77	350	100	Flat
2	13.1925	16.93	Pk	10.2	.7	-40	-12.17	40.5	-52.67	350	100	Flat
3	13.5425	31.97	Pk	10.2	.7	-40	2.87	50.5	-47.63	350	100	Flat
4	13.56	49.55	Pk	10.2	.7	-40	20.45	84	-63.55	350	100	Flat
5	13.588	30.56	Pk	10.2	.7	-40	1.46	50.5	-49.04	350	100	Flat
6	13.7315	18.72	Pk	10.2	.7	-40	-10.38	40.5	-50.88	350	100	Flat
7	14.6345	16.48	Pk	10	.7	-40	-12.82	29.5	-42.32	350	100	Flat

Pk - Peak detector

9.3. FUNDAMENTAL EMISSIONS – TAG

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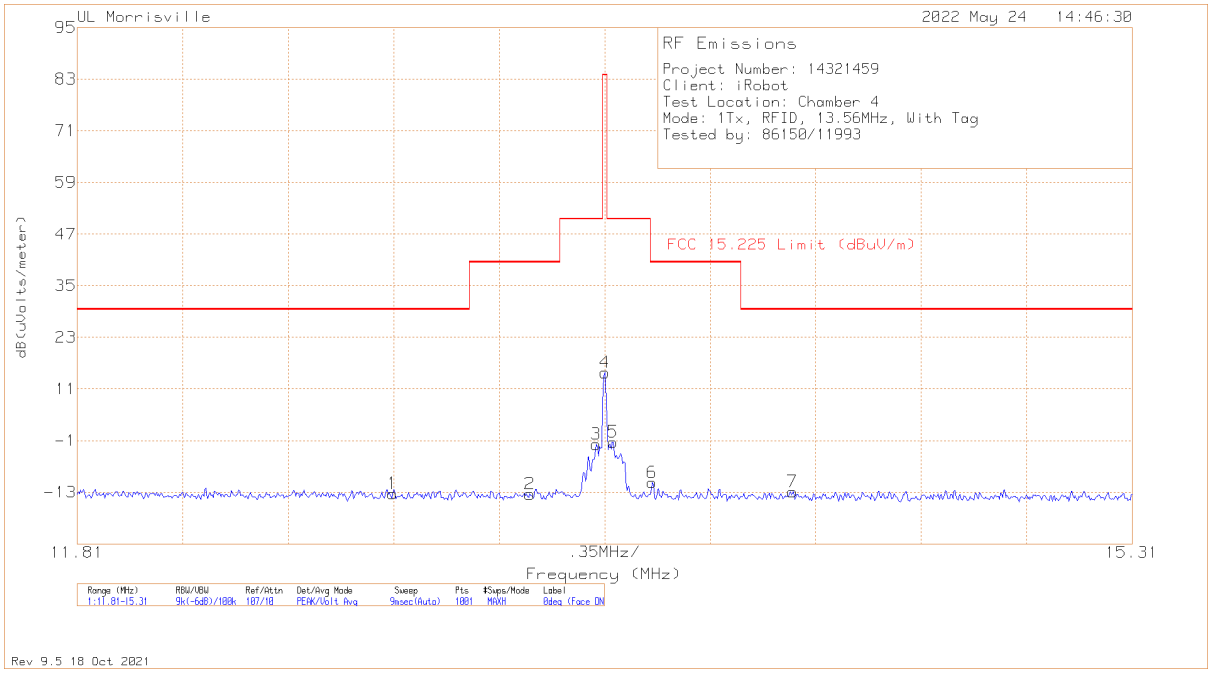

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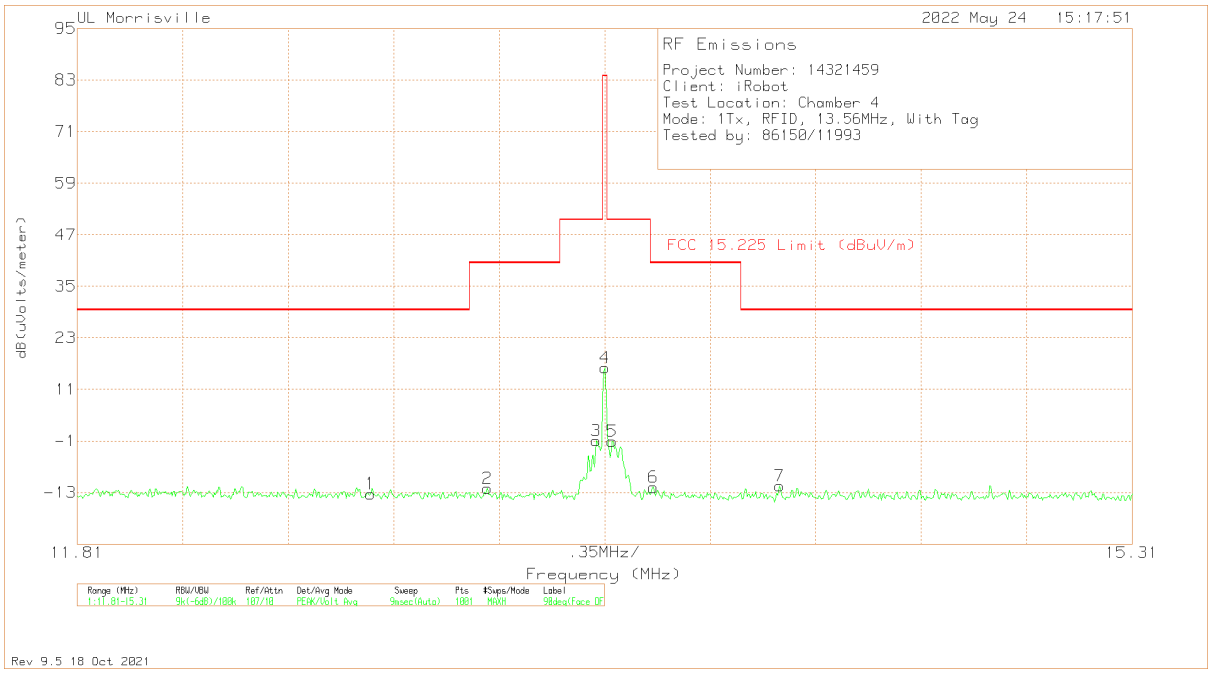

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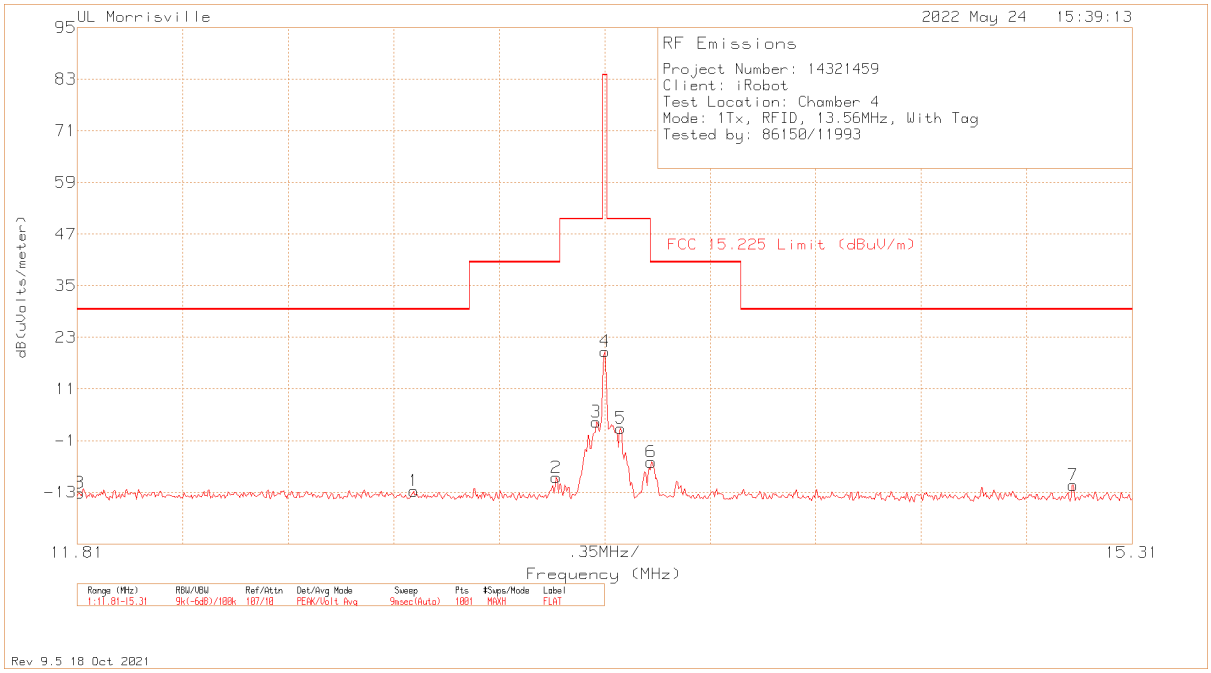


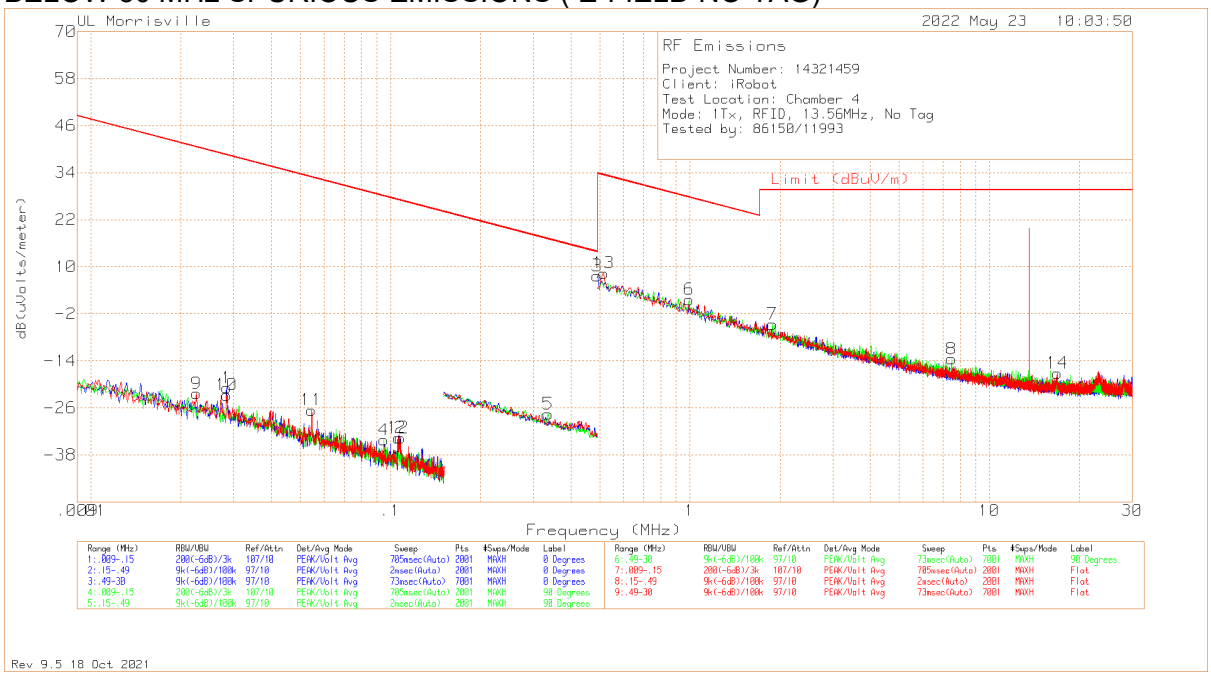
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AT0079 (dB/m)	Gain/Loss (dB)	Dist. Corr. Factor (dB)	Corrected Reading dB(uVolts/meter)	FCC 15.225 Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Loop Angle
1	12.8565	15.68	Pk	10.3	.7	-40	-13.32	29.5	-42.82	114	100	0 degs
2	13.3115	15.7	Pk	10.2	.7	-40	-13.4	40.5	-53.9	114	100	0 degs
3	13.532	27.25	Pk	10.2	.7	-40	-1.85	50.5	-52.35	114	100	0 degs
4	13.56	43.92	Pk	10.2	.7	-40	14.82	84	-69.18	114	100	0 degs
5	13.588	27.77	Pk	10.2	.7	-40	-1.33	50.5	-51.83	114	100	0 degs
6	13.7175	18.34	Pk	10.2	.7	-40	-10.76	40.5	-51.26	114	100	0 degs
7	14.183	16.32	Pk	10.1	.7	-40	-12.88	29.5	-42.38	114	100	0 degs
1	12.783	15.7	Pk	10.3	.7	-40	-13.3	29.5	-42.8	184	100	90 degs
2	13.1715	17.04	Pk	10.2	.7	-40	-12.06	40.5	-52.56	184	100	90 degs
3	13.532	28.16	Pk	10.2	.7	-40	-.94	50.5	-51.44	184	100	90 degs
4	13.56	45.1	Pk	10.2	.7	-40	16	84	-68	184	100	90 degs
5	13.5845	27.99	Pk	10.2	.7	-40	-1.11	50.5	-51.61	184	100	90 degs
6	13.721	17.31	Pk	10.2	.7	-40	-11.79	40.5	-52.29	184	100	90 degs
7	14.141	17.74	Pk	10.1	.7	-40	-11.46	29.5	-40.96	184	100	90 degs
8	11.817	15.73	Pk	10.4	.7	-40	-13.17	29.5	-42.67	352	100	Flat
1	12.9265	16.41	Pk	10.2	.7	-40	-12.69	29.5	-42.19	352	100	Flat
2	13.399	19.51	Pk	10.2	.7	-40	-9.59	40.5	-50.09	352	100	Flat
3	13.532	32.44	Pk	10.2	.7	-40	3.34	50.5	-47.16	352	100	Flat
4	13.56	48.83	Pk	10.2	.7	-40	19.73	84	-64.27	352	100	Flat
5	13.6125	31.01	Pk	10.2	.7	-40	1.91	50.5	-48.59	352	100	Flat
6	13.714	23.15	Pk	10.2	.7	-40	-5.95	40.5	-46.45	352	100	Flat
7	15.114	17.94	Pk	10	.7	-40	-11.36	29.5	-40.86	352	100	Flat

Pk - Peak detector

9.4. TX SPURIOUS EMISSION BELOW 30 MHz – NO TAG

Note: All measurements were made at a test distance of 3 m. The measured data was extrapolated from the test distance (3m) to the specification distance (300 m from 9-490 kHz and 30 m from 490 kHz – 30 MHz) to clearly show the relative levels of fundamental and spurious emissions and demonstrate compliance with the requirement that the level of any spurious emissions be below the level of the intentionally transmitted signal. The extrapolation factor for the limits were 40*Log (test distance / specification distance).

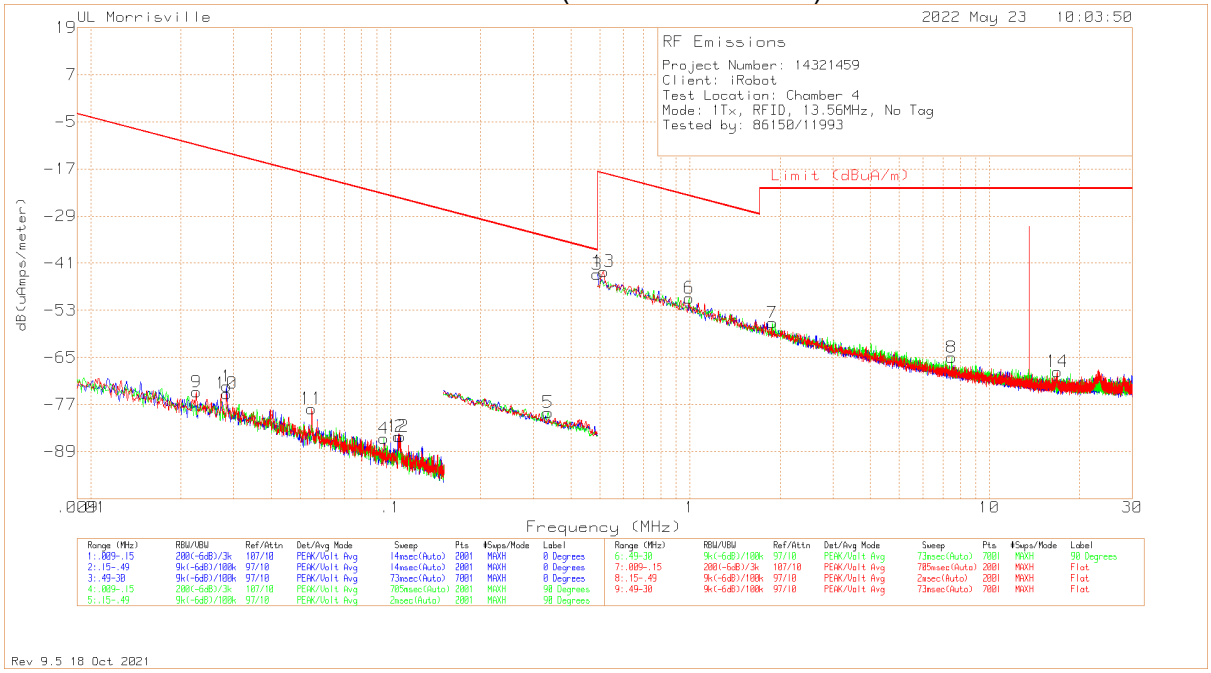
BELOW 30 MHz SPURIOUS EMISSIONS (E-FIELD NO TAG)



Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AT0079 (dB/m)	Cbl (dB)	Dist. Corr. Factor (dB)	Corrected Reading dB(uVolts/meter)	QP/AV Limit (dBuV/m)	PK Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Loop Angle
9	.02249	43.68	Pk	13.9	.1	-80	-22.32	40.56	60.56	-62.88	0-360	Flat
1	.02838	45.54	Pk	13.5	.1	-80	-20.86	38.54	58.54	-59.4	0-360	0 degs
10	.02838	43.7	Pk	13.5	.1	-80	-22.7	38.54	58.54	-61.24	0-360	Flat
11	.05458	41.65	Pk	11.7	.1	-80	-26.55	32.86	52.86	-59.41	0-360	Flat
4	.09512	34.34	Pk	11.4	.1	-80	-34.16	28.04	-	-62.2	0-360	90 degs
12	.1062	34.85	Pk	11.4	.1	-80	-33.65	27.08	-	-60.73	0-360	Flat
2	.10805	34.9	Pk	11.4	.1	-80	-33.6	26.93	-	-60.53	0-360	0 degs
5	.33598	41.14	Pk	11.2	.1	-80	-27.56	17.08	37.08	-44.64	0-360	90 degs
3	.49	36.28	Pk	11.2	.2	-40	7.68	13.8	33.8	-6.12	0-360	0 degs
13	.5153	36.97	Pk	11.2	.2	-40	8.37	33.36	-	-24.99	0-360	Flat
6	.99592	30.14	Pk	11.3	.2	-40	1.64	27.64	-	-26	0-360	90 degs
7	1.8855	23.64	Pk	11.4	.3	-40	-4.66	29.54	-	-34.2	0-360	90 degs
8	7.47591	14.99	Pk	10.9	.6	-40	-13.51	29.54	-	-43.05	0-360	90 degs
14	16.85651	12.08	Pk	9.8	1	-40	-17.12	29.54	-	-46.66	0-360	Flat

Pk - Peak detector

BELOW 30 MHz SPURIOUS EMISSIONS (H-FIELD NO TAG)



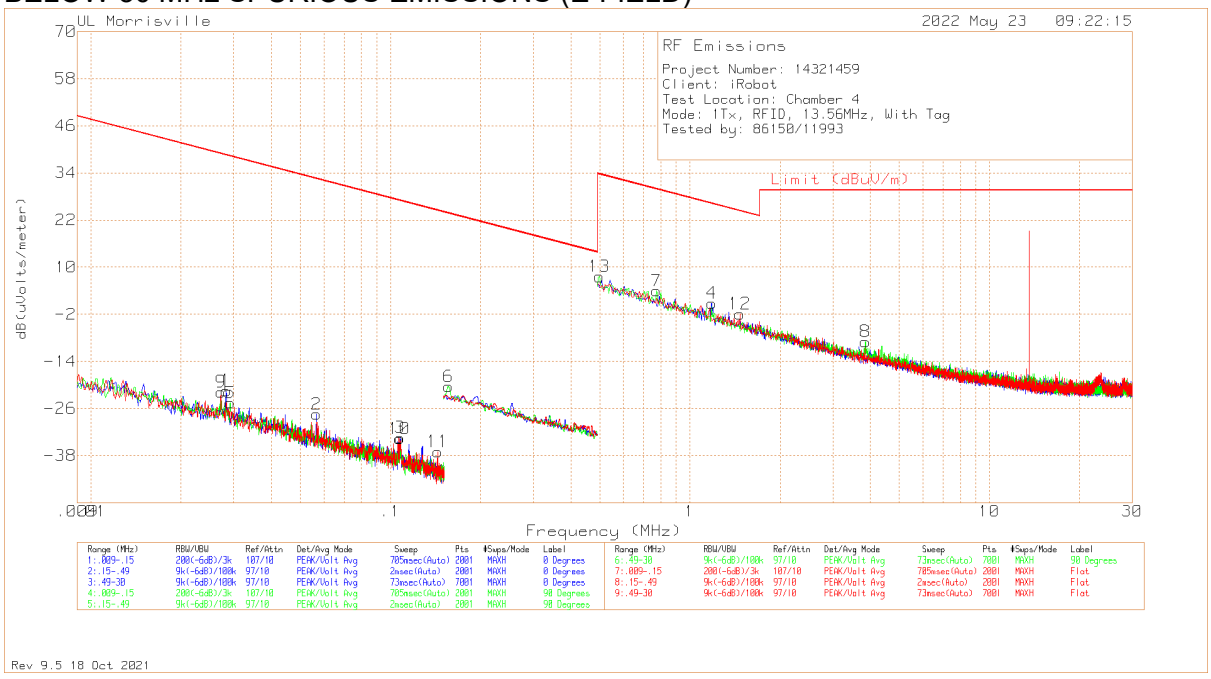
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AT0079 (dB/m)	Cbl (dB)	Dist. Corr. Factor (dB)	Corrected Reading dB(uAmps/meter)	QP/AV Limit (dBuA/m)	PK Limit (dBuA/m)	Margin (dB)	Azimuth (Degs)	Loop Angle
9	.02249	43.68	Pk	-37.6	.1	-80	-73.82	-10.94	9.06	-62.88	0-360	Flat
1	.02838	45.54	Pk	-38	.1	-80	-72.36	-12.96	7.04	-59.4	0-360	0 degs
10	.02838	43.7	Pk	-38	.1	-80	-74.2	-12.96	7.04	-61.24	0-360	Flat
11	.05458	41.65	Pk	-39.8	.1	-80	-78.05	-18.64	1.36	-59.41	0-360	Flat
4	.09512	34.34	Pk	-40.1	.1	-80	-85.66	-23.46	-	-62.2	0-360	90 degs
12	.1062	34.85	Pk	-40.1	.1	-80	-85.15	-24.42	-	-60.73	0-360	Flat
2	.10805	34.9	Pk	-40.1	.1	-80	-85.1	-24.57	-	-60.53	0-360	0 degs
5	.33598	41.14	Pk	-40.3	.1	-80	-79.06	-34.42	-14.42	-44.64	0-360	90 degs
3	.49	36.28	Pk	-40.3	.2	-40	-43.82	-37.7	-17.7	-6.12	0-360	0 degs
13	.5153	36.97	Pk	-40.3	.2	-40	-43.13	-18.14	-	-24.99	0-360	Flat
6	.99592	30.14	Pk	-40.2	.2	-40	-49.86	-23.86	-	-26	0-360	90 degs
7	1.8855	23.64	Pk	-40.1	.3	-40	-56.16	-21.96	-	-34.2	0-360	90 degs
8	7.47591	14.99	Pk	-40.6	.6	-40	-65.01	-21.96	-	-43.05	0-360	90 degs
14	16.85651	12.08	Pk	-41.7	1	-40	-68.62	-21.96	-	-46.66	0-360	Flat

Pk - Peak detector

9.5. TX SPURIOUS EMISSION BELOW 30 MHz – TAG

Note: All measurements were made at a test distance of 3 m. The measured data was extrapolated from the test distance (3m) to the specification distance (300 m from 9-490 kHz and 30 m from 490 kHz – 30 MHz) to clearly show the relative levels of fundamental and spurious emissions and demonstrate compliance with the requirement that the level of any spurious emissions be below the level of the intentionally transmitted signal. The extrapolation factor for the limits were 40*Log (test distance / specification distance).

BELOW 30 MHz SPURIOUS EMISSIONS (E-FIELD)

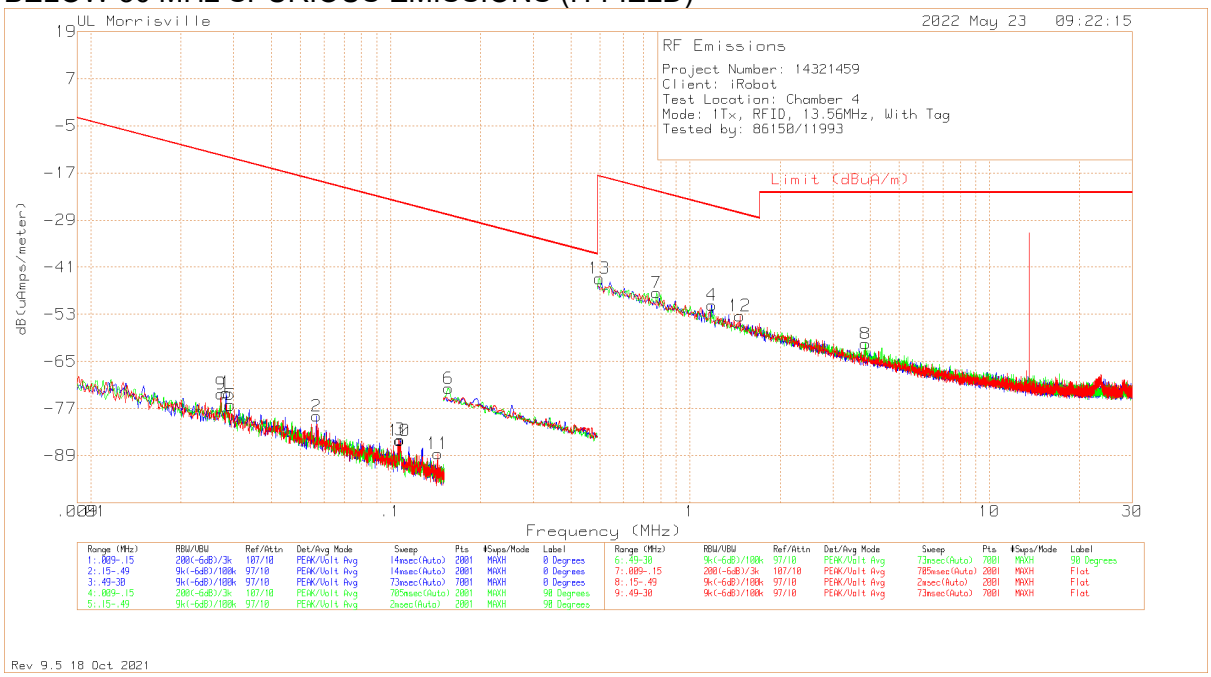


Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AT0079 (dB/m)	Cbl (dB)	Dist. Corr. Factor (dB)	Corrected Reading dB(uVolts/meter)	QP/AV Limit (dBuV/m)	PK Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Loop Angle
9	.02718	44.6	Pk	13.5	.1	-80	-21.8	38.92	58.92	-60.72	0-360	Flat
1	.02831	44.93	Pk	13.5	.1	-80	-21.47	38.57	58.57	-60.04	0-360	0 degs
5	.02916	41.91	Pk	13.4	.1	-80	-24.59	38.31	58.31	-62.9	0-360	90 degs
2	.05671	40.77	Pk	11.7	.1	-80	-27.43	32.53	32.53	-59.96	0-360	0 degs
10	.10726	34.81	Pk	11.4	.1	-80	-33.69	27	-	-60.69	0-360	Flat
3	.10769	35.05	Pk	11.4	.1	-80	-33.45	26.96	-	-60.41	0-360	0 degs
11	.14383	31.68	Pk	11.2	.1	-80	-37.02	24.45	44.45	-61.47	0-360	Flat
6	.15604	48.3	Pk	11.2	.1	-80	-20.4	23.74	43.74	-44.14	0-360	90 degs
13	.49843	36.21	Pk	11.2	.2	-40	7.61	33.65	-	-26.04	0-360	90 degs
7	.77247	32.45	Pk	11.3	.2	-40	3.95	29.85	-	-25.9	0-360	90 degs
4	1.18142	29.33	Pk	11.3	.2	-40	.83	26.16	-	-25.33	0-360	0 degs
12	1.46811	26.48	Pk	11.3	.3	-40	-1.92	24.27	-	-26.19	0-360	Flat
8	3.85437	19.11	Pk	11.4	.5	-40	-8.99	29.54	-	-38.53	0-360	90 degs

Pk - Peak detector

UL LLC
12 Laboratory Dr., RTP, NC 27709; USA TEL:(919) 549-1400

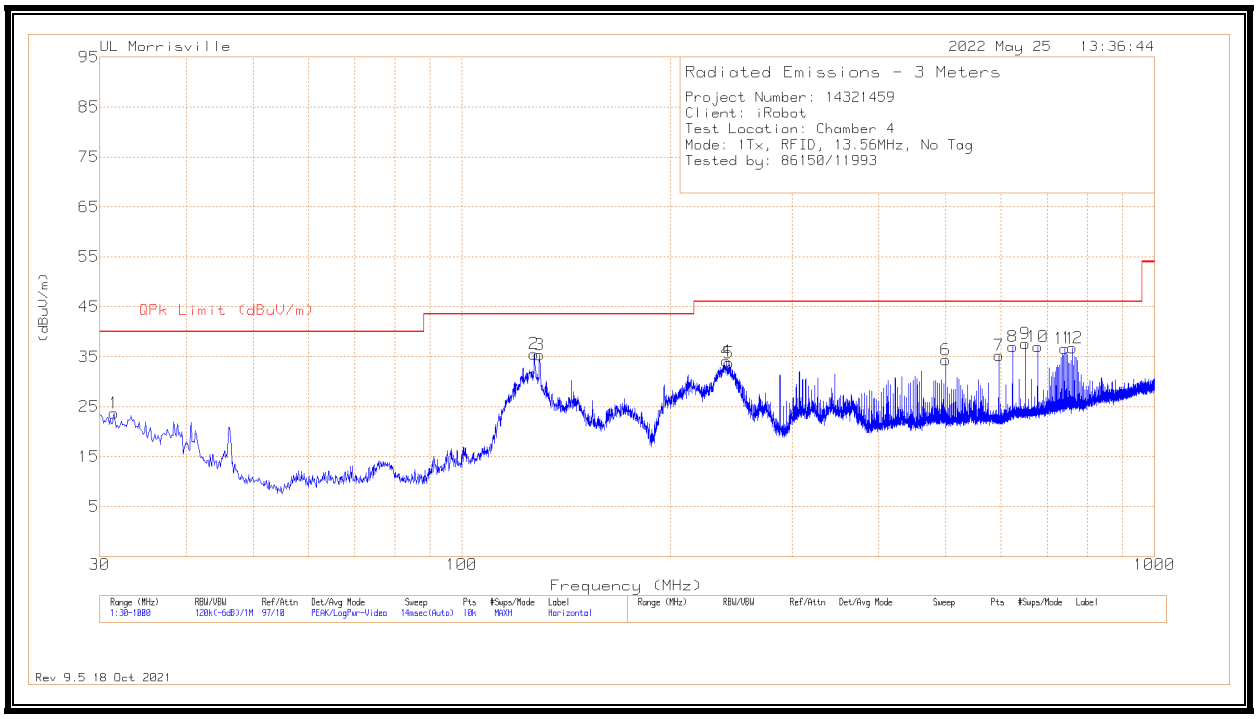
BELOW 30 MHz SPURIOUS EMISSIONS (H-FIELD)

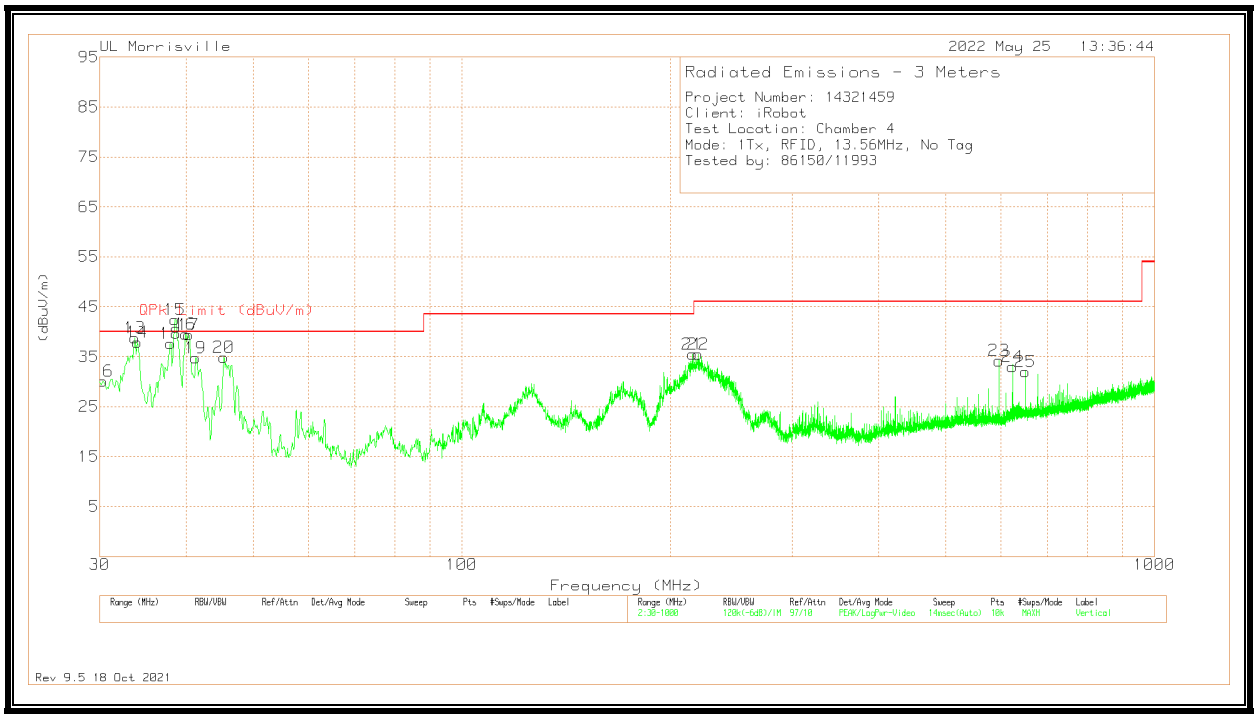


Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AT0079 (dB/m)	Cbl (dB)	Dist. Corr. Factor (dB)	Corrected Reading dB(uAmps/meter)	QP/AV Limit (dBuA/m)	PK Limit (dBuA/m)	Margin (dB)	Azimuth (Degs)	Loop Angle
9	.02718	44.6	Pk	-38	.1	-80	-73.3	-12.58	7.42	-60.72	0-360	Flat
1	.02831	44.93	Pk	-38	.1	-80	-72.97	-12.93	7.07	-60.04	0-360	0 degs
5	.02916	41.91	Pk	-38.1	.1	-80	-76.09	-13.19	6.81	-62.9	0-360	90 degs
2	.05671	40.77	Pk	-39.8	.1	-80	-78.93	-18.97	1.03	-59.96	0-360	0 degs
10	.10726	34.81	Pk	-40.1	.1	-80	-85.19	-24.5	-	-60.69	0-360	Flat
3	.10769	35.05	Pk	-40.1	.1	-80	-84.95	-24.54	-	-60.41	0-360	0 degs
11	.14383	31.68	Pk	-40.3	.1	-80	-88.52	-27.05	-7.05	-61.47	0-360	Flat
6	.15604	48.3	Pk	-40.3	.1	-80	-71.9	-27.76	-7.76	-44.14	0-360	90 degs
13	.49843	36.21	Pk	-40.3	.2	-40	-43.89	-17.85	-	-26.04	0-360	90 degs
7	.77247	32.45	Pk	-40.2	.2	-40	-47.55	-21.65	-	-25.9	0-360	90 degs
4	1.18142	29.33	Pk	-40.2	.2	-40	-50.67	-25.34	-	-25.33	0-360	0 degs
12	1.46811	26.48	Pk	-40.2	.3	-40	-53.42	-27.23	-	-26.19	0-360	Flat
8	3.85437	19.11	Pk	-40.1	.5	-40	-60.49	-21.96	-	-38.53	0-360	90 degs

Pk - Peak detector

9.6. TX SPURIOUS EMISSION 30 TO 1000 MHz – NO TAG

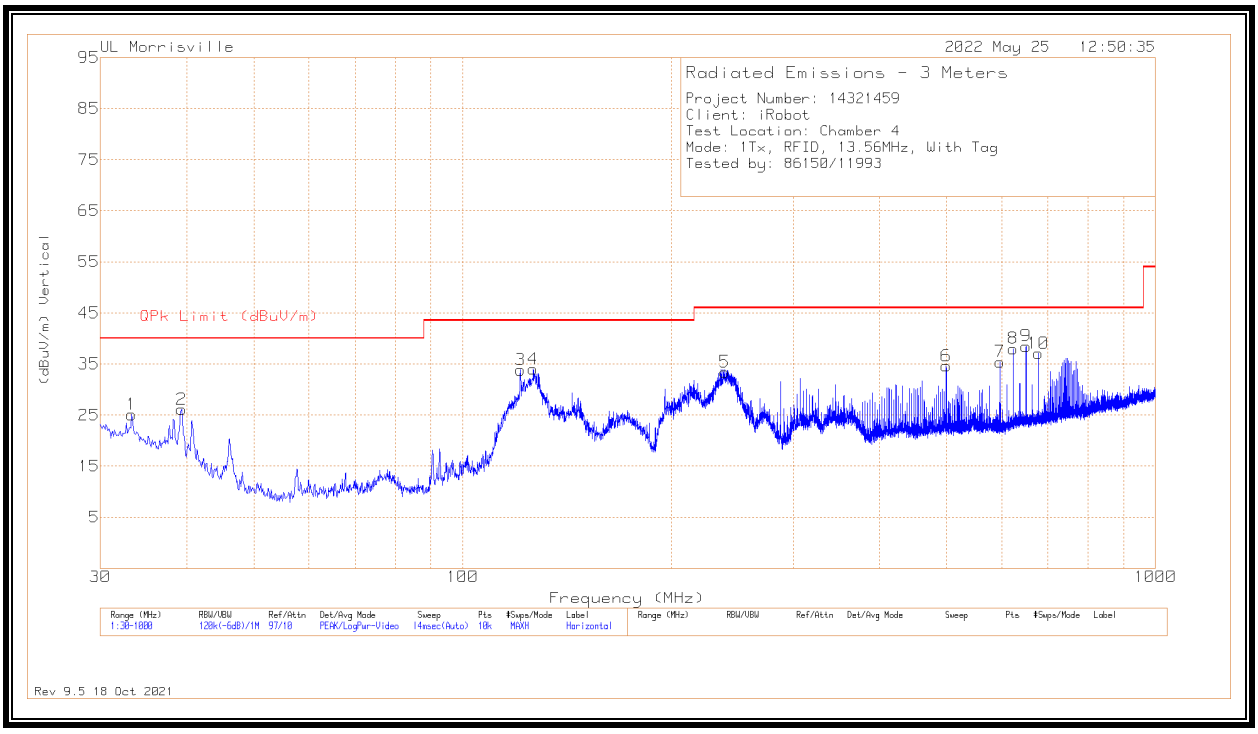


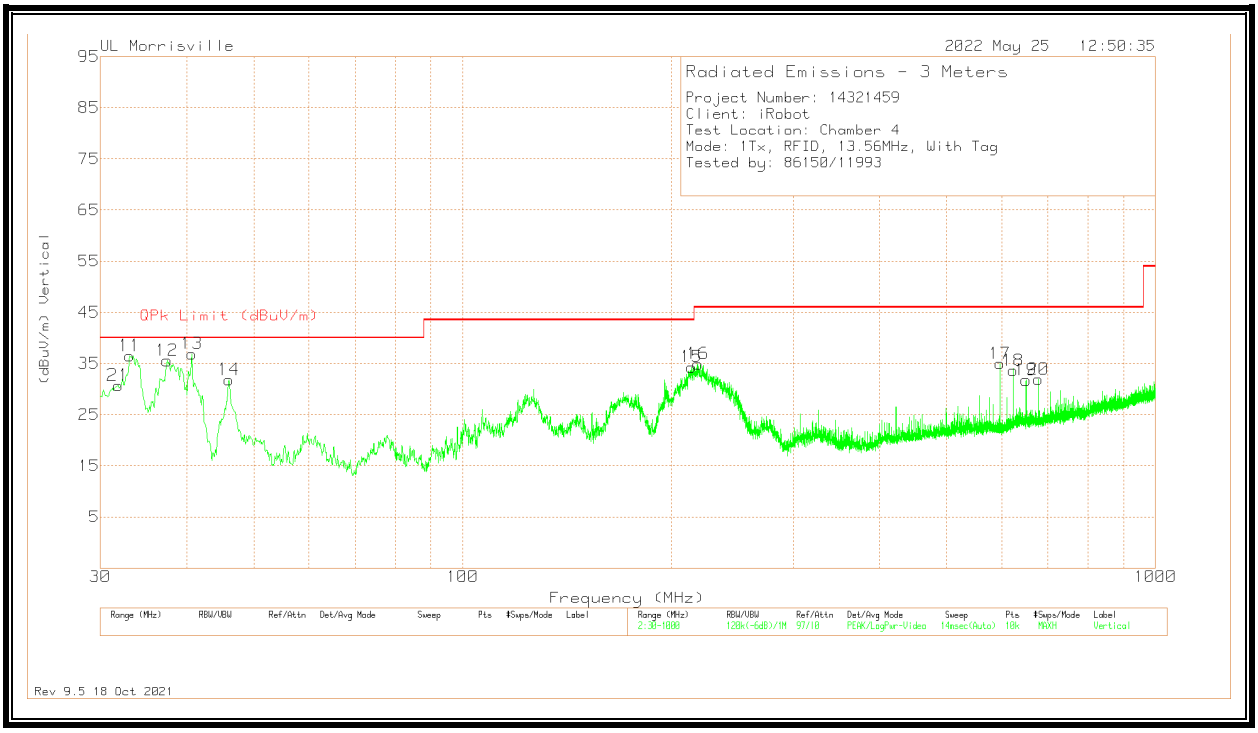


Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AT0081 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
26	30.291	34.86	Pk	27	-31.7	30.16	40	-9.84	0-360	100	V
1	31.455	29.42	Pk	26.1	-31.8	23.72	40	-16.28	0-360	300	H
13	33.9123	38.47	Qp	24.6	-31.8	31.27	40	-8.73	317	102	V
14	34.0417	37	Qp	24.5	-31.7	29.8	40	-10.2	227	104	V
18	38.1799	39.02	Qp	21.4	-31.7	28.72	40	-11.28	177	149	V
15	38.5935	40.64	Qp	21	-31.7	29.94	40	-10.06	180	105	V
16	39.8206	37.91	Qp	20.1	-31.7	26.31	40	-13.69	65	109	V
17	40.4215	38.91	Qp	19.7	-31.5	27.11	40	-12.89	296	145	V
19	41.3043	39.63	Qp	19	-31.5	27.13	40	-12.87	290	111	V
20	45.4924	39.02	Qp	16.1	-31.6	23.52	40	-16.48	250	114	V
2	127.194	45.97	Pk	20.2	-30.6	35.57	43.52	-7.95	0-360	200	H
3	129.425	45.76	Pk	20.1	-30.5	35.36	43.52	-8.16	0-360	200	H
21	215.464	48.35	Pk	16.9	-29.7	35.55	43.52	-7.97	0-360	100	V
22	219.441	48.07	Pk	17.1	-29.7	35.47	46.02	-10.55	0-360	100	V
4	240.975	45.42	Pk	18.1	-29.4	34.12	46.02	-11.9	0-360	100	H
5	243.206	45.2	Pk	18.1	-29.5	33.8	46.02	-12.22	0-360	100	H
6	499.189	38.14	Pk	24.3	-28.1	34.34	46.02	-11.68	0-360	100	H
7	596.674	38.07	Pk	24.9	-27.7	35.27	46.02	-10.75	0-360	200	H
23	596.674	36.99	Pk	24.9	-27.7	34.19	46.02	-11.83	0-360	100	V
24	623.737	34.48	Pk	26	-27.5	32.98	46.02	-13.04	0-360	100	V
8	623.834	38.52	Pk	26	-27.5	37.02	46.02	-9	0-360	200	H
25	650.8	33.42	Pk	26.3	-27.7	32.02	46.02	-14	0-360	100	V
9	650.897	38.94	Pk	26.3	-27.6	37.64	46.02	-8.38	0-360	100	H
10	678.057	37.95	Pk	26.4	-27.3	37.05	46.02	-8.97	0-360	100	H
11	742.465	36.22	Pk	27.3	-26.9	36.62	46.02	-9.4	0-360	100	H
12	761.671	36.14	Pk	27.4	-26.8	36.74	46.02	-9.28	0-360	100	H

Pk - Peak detector
Qp - Quasi-Peak detector

9.7. TX SPURIOUS EMISSION 30 TO 1000 MHz – TAG





Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AT0081 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
21	31.843	36.5	Pk	26	-31.8	30.7	40	-9.3	0-360	100	V
11	32.998	37.23	Qp	25.1	-31.7	30.63	40	-9.37	281	109	V
1	33.298	31.9	Pk	24.9	-31.7	25.1	40	-14.9	0-360	100	H
12	37.5582	40.73	Qp	21.8	-31.7	30.83	40	-9.17	244	107	V
2	39.312	37.33	Pk	20.5	-31.7	26.13	40	-13.87	0-360	300	H
13	40.5238	42.03	Qp	19.6	-31.6	30.03	40	-9.97	260	104	V
14	46.005	47.63	Pk	15.8	-31.6	31.83	40	-8.17	0-360	100	V
3	121.277	44.35	Pk	20.1	-30.6	33.85	43.52	-9.67	0-360	300	H
4	126.515	44.28	Pk	20.2	-30.5	33.98	43.52	-9.54	0-360	100	H
15	214.106	47.11	Pk	16.9	-29.7	34.31	43.52	-9.21	0-360	100	V
16	218.762	47.43	Pk	17.1	-29.6	34.93	46.02	-11.09	0-360	100	V
5	238.938	44.9	Pk	18	-29.5	33.4	46.02	-12.62	0-360	100	H
6	499.189	38.41	Pk	24.3	-28.1	34.61	46.02	-11.41	0-360	100	H
7	596.674	38.23	Pk	24.9	-27.7	35.43	46.02	-10.59	0-360	200	H
17	596.674	37.77	Pk	24.9	-27.7	34.97	46.02	-11.05	0-360	100	V
18	623.737	35.11	Pk	26	-27.5	33.61	46.02	-12.41	0-360	100	V
8	623.834	39.51	Pk	26	-27.5	38.01	46.02	-8.01	0-360	100	H
9	650.897	39.8	Pk	26.3	-27.6	38.5	46.02	-7.52	0-360	100	H
19	650.897	33.06	Pk	26.3	-27.6	31.76	46.02	-14.26	0-360	100	V
10	678.057	37.96	Pk	26.4	-27.3	37.06	46.02	-8.96	0-360	100	H
20	678.057	32.81	Pk	26.4	-27.3	31.91	46.02	-14.11	0-360	100	V

Pk - Peak detector
Qp - Quasi-Peak detector

10. FREQUENCY STABILITY

LIMIT

§15.225 (e) The frequency tolerance of the carrier signal shall be maintained within ±0.01% of the operating frequency, over a temperature variation of -20 degrees to +50 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C. For battery operated equipment, the equipment tests shall be performed using a new battery.

IC RSS-210, Annex B.6
Carrier frequency stability shall be maintained to ±0.01% (±100 ppm).

TEST PROCEDURE

ANSI C63.10-2013 Clause 6.8

RESULTS

No non-compliance noted.

Reference Frequency: EUT Channel 13.56 MHz @ 20ºC Limit: ± 100 ppm = 1.356 kHz										
Power Supply	Envir. Temp	Frequency Deviation Measureed with Time Elapse								
(Vdc)	(ºC)	Startup (MHz)	Delta (ppm)	@ 2 mins (MHz)	Delta (ppm)	@ 5 mins (MHz)	Delta (ppm)	@ 10 mins (MHz)	Delta (ppm)	Limit (ppm)
14.40	50	13.5601651	5.577	13.5601621	5.798	13.5601604	5.927	13.5601560	6.250	± 100
14.40	40	13.5601918	3.614	13.5601891	3.807	13.5601866	3.992	13.5601839	4.194	± 100
14.40	30	13.5602251	1.152	13.5602230	1.309	13.5602186	1.632	13.5602160	1.825	± 100
14.40	***20***	***13.5602408***	***0.000***	***13.5602385***	***0.166***	***13.5602361***	***0.341***	***13.5602326***	***0.599***	***± 100***
14.40	10	13.5602456	-0.360	13.5602453	-0.332	13.5602449	-0.304	13.5602443	-0.258	± 100
14.40	0	13.5602453	-0.332	13.5602453	-0.332	13.5602454	-0.341	13.5602454	-0.341	± 100
14.40	-10	13.5602375	0.240	13.5602385	0.166	13.5602385	0.166	13.5602385	0.166	± 100
14.40	-20	13.5603375	-7.135	13.5603375	-7.135	13.5603250	-6.213	13.5603375	-7.135	± 100
12.24	20	13.5602810	-2.968	13.5602797	-2.876	13.5602800	-2.891	13.5602797	-2.870	± 100
16.56	20	13.5602797	-2.874	13.5602794	-2.854	13.5602795	-2.856	13.5602791	-2.825	± 100

Tested by: 40882
Test date: 2022-06-02

11. AC MAINS LINE CONDUCTED EMISSIONS

LIMITS

§15.207
IC RSS-GEN, Section 8.8

(a) Except as shown in paragraphs (b) and (c) of this section, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50μH/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the band edges.

Frequency range	Limits (dBμV)	
(MHz)	Quasi-peak	Average
0.15 to 0.50	66 to 56	56 to 46
0.50 to 5	56	46
5 to 30	60	50
Notes: 1. The lower limit shall apply at the transition frequencies 2. The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz.		

TEST PROCEDURE

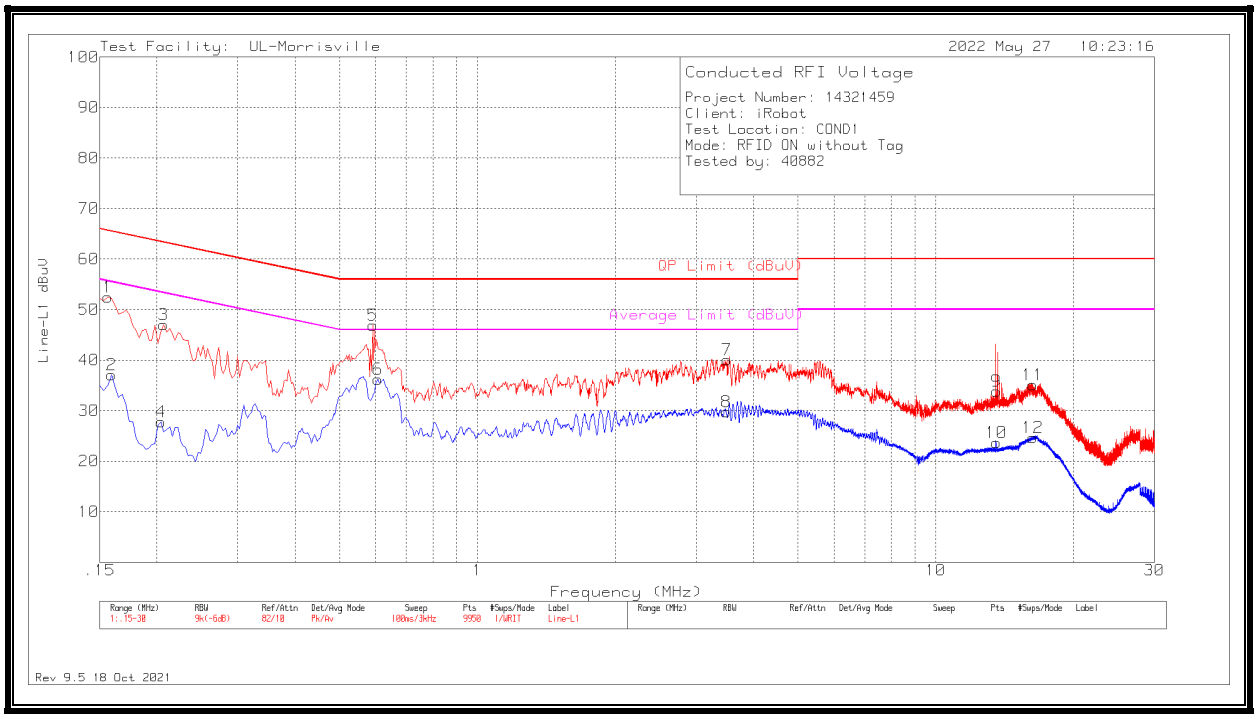
The EUT is placed on a non-conducting table 40 cm from the vertical ground plane and 80 cm above the horizontal ground plane. The EUT is configured in accordance with ANSI C63.10.

The receiver is set to a resolution bandwidth of 9 kHz above 150kHz and 200Hz below 150kHz. Peak detection is used unless otherwise noted as quasi-peak or average.

Line conducted data is recorded for both lines.

11.1. NFC – NO TAG

LINE 1 RESULTS

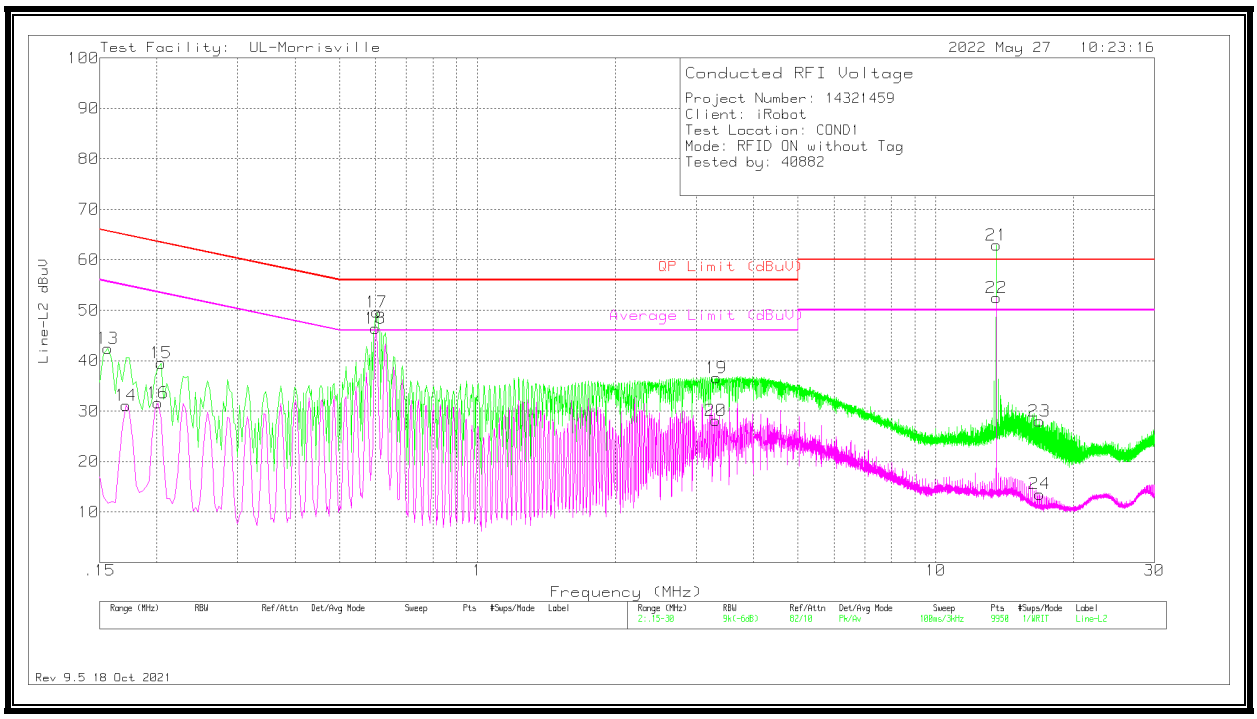


Range 1: Line-L1 .15 - 30MHz										
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN VCF (dB)	Cbl/Limiter (dB)	Corrected Reading dBuV	QP Limit (dBuV)	Margin (dB)	Average Limit (dBuV)	Margin (dB)
1	.156	42.47	Pk	.2	9.8	52.47	65.67	-13.2	-	-
2	.159	27.07	Av	.2	9.8	37.07	-	-	55.52	-18.45
3	.207	37.09	Pk	.1	9.8	46.99	63.32	-16.33	-	-
4	.204	17.88	Av	.1	9.8	27.78	-	-	53.45	-25.67
5	.591	37.04	Pk	0	9.8	46.84	56	-9.16	-	-
6	.606	26.39	Av	0	9.8	36.19	-	-	46	-9.81
7	3.504	30.22	Pk	0	9.9	40.12	56	-15.88	-	-
8	3.489	19.82	Av	0	9.9	29.72	-	-	46	-16.28
9	13.56	23.81	Pk	.1	10	33.91	60	-26.09	-	-
10	13.56	13.55	Av	.1	10	23.65	-	-	50	-26.35
11	16.2735	24.85	Pk	.1	10.1	35.05	60	-24.95	-	-
12	16.275	14.47	Av	.1	10.1	24.67	-	-	50	-25.33

Pk - Peak detector
Av - Average detection

Note: 13.56MHz is a fundamental frequency of the EUT. Data under the following section 11.3 indicate that when the antenna terminal is terminated the fundamental amplitude is lowered below the limit line.

LINE 2 RESULT



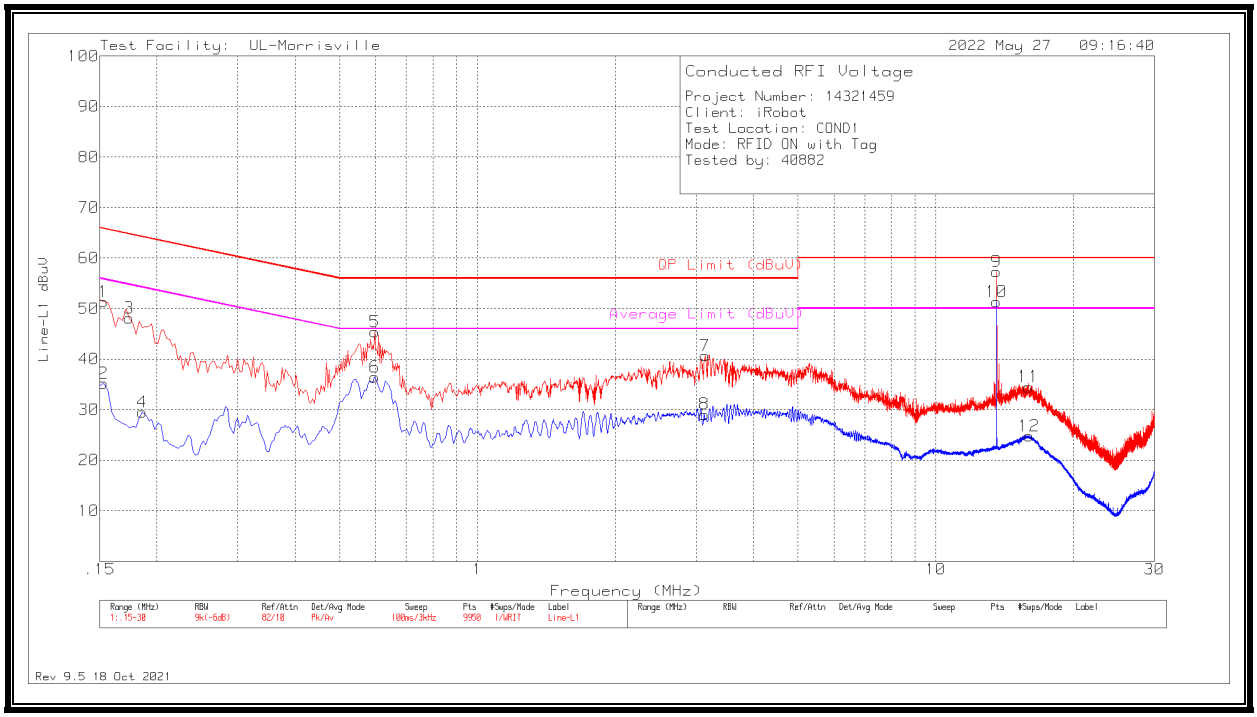
Range 2: Line-L2 .15 - 30MHz										
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN VCF (dB)	Cbl/Limiter (dB)	Corrected Reading dBuV	QP Limit (dBuV)	Margin (dB)	Average Limit (dBuV)	Margin (dB)
13	.156	32.48	Pk	.2	9.8	42.48	65.67	-23.19	-	-
14	.171	21.09	Av	.2	9.8	31.09	-	-	54.91	-23.82
15	.204	29.61	Pk	.1	9.8	39.51	63.45	-23.94	-	-
16	.201	21.68	Av	.1	9.8	31.58	-	-	53.57	-21.99
17	.603	39.79	Pk	0	9.8	49.59	56	-6.41	-	-
18	.60234	35.63	Ca	0	9.8	45.43	-	-	46	-.57
19	3.318	26.64	Pk	0	9.9	36.54	56	-19.46	-	-
20	3.315	18.24	Av	0	9.9	28.14	-	-	46	-17.86
21	13.5604	55.23	Ca	.1	10	65.33	-	-	**50**	**15.33**
22	13.5604	54.98	Qp	.1	10	65.08	**60**	**5.08**	-	-
23	16.833	17.77	Pk	.1	10.1	27.97	60	-32.03	-	-
24	16.842	3.36	Av	.1	10.1	13.56	-	-	50	-36.44

Pk - Peak detector
Av - Average detection
Qp – Quasi-peak detection
Ca – CISPR Average detection

Note: 13.56MHz is a fundamental frequency of the EUT. Data under the following section 11.3 indicate that when the antenna terminal is terminated the fundamental amplitude is lowered below the limit line.

11.2. NFC –TAG

LINE 1 RESULTS

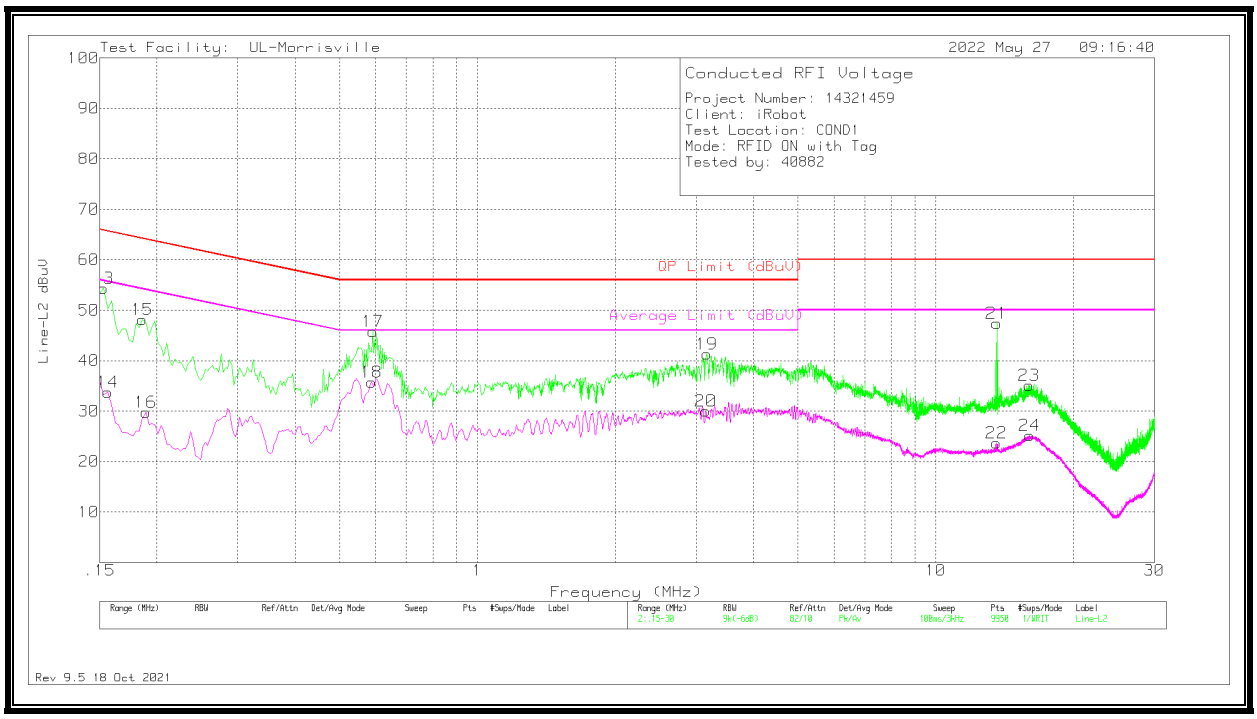


Range 1: Line-L1 .15 - 30MHz										
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN VCF (dB)	Cbl/Limiter (dB)	Corrected Reading dBuV	QP Limit (dBuV)	Margin (dB)	Average Limit (dBuV)	Margin (dB)
1	.153	41.39	Pk	.2	9.8	51.39	65.84	-14.45	-	-
2	.153	25.2	Av	.2	9.8	35.2	-	-	55.84	-20.64
3	.174	38.08	Pk	.2	9.8	48.08	64.77	-16.69	-	-
4	.186	19.46	Av	.2	9.8	29.46	-	-	54.21	-24.75
5	.597	35.61	Pk	0	9.8	45.41	56	-10.59	-	-
6	.597	26.66	Av	0	9.8	36.46	-	-	46	-9.54
7	3.141	30.89	Pk	0	9.8	40.69	56	-15.31	-	-
8	3.126	19.28	Av	0	9.8	29.08	-	-	46	-16.92
9	13.5601	55.01	Qp	.1	10	65.11	**60**	**5.11**	-	-
10	13.5601	54.71	Ca	.1	10	64.81	-	-	**50**	**14.81**
11	15.951	24.34	Pk	.1	10.1	34.54	60	-25.46	-	-
12	15.966	14.61	Av	.1	10.1	24.81	-	-	50	-25.19

Pk - Peak detector
Av - Average detection
Qp – Quasi-peak detection
Ca – CISPR Average detection

Note: 13.56MHz is a fundamental frequency of the EUT. Data under the following section 11.3 indicate that when the antenna terminal is terminated the fundamental amplitude is lowering below the limit line.

LINE 2 RESULT



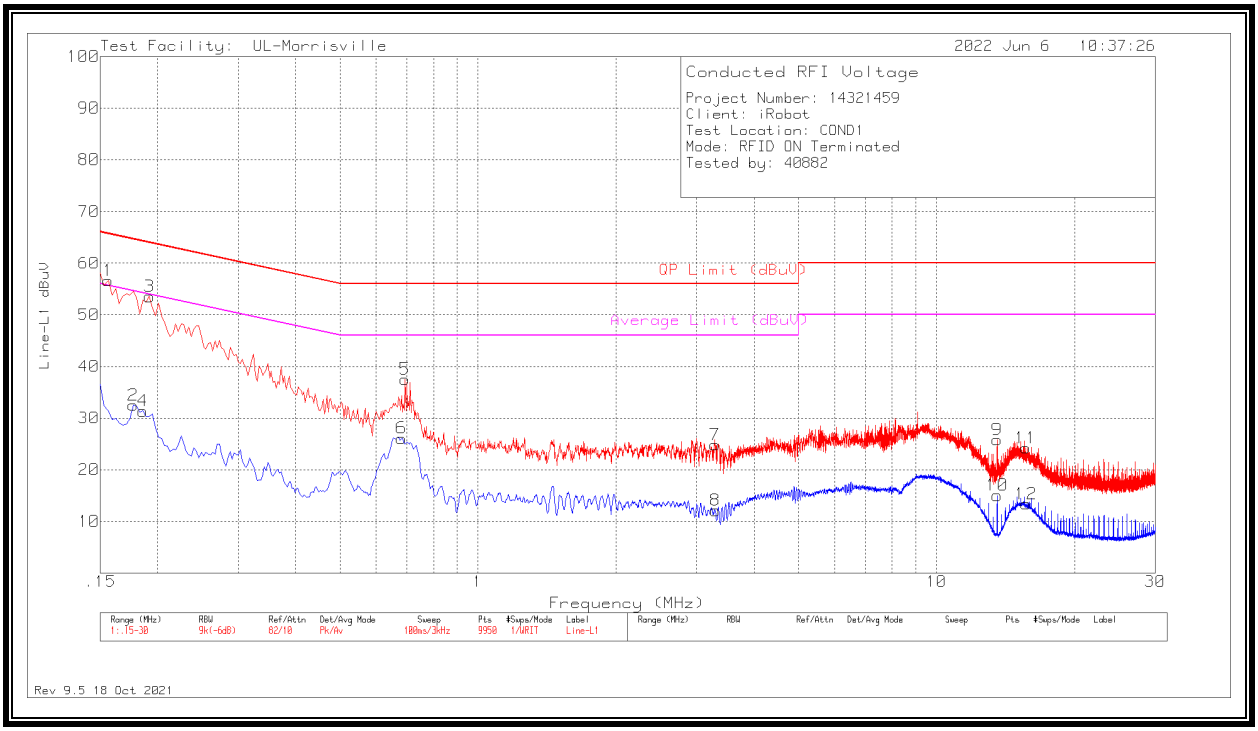
Range 2: Line-L2 .15 - 30MHz										
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN VCF (dB)	Cbl/Limiter (dB)	Corrected Reading dBuV	QP Limit (dBuV)	Margin (dB)	Average Limit (dBuV)	Margin (dB)
13	.153	44.3	Pk	.2	9.8	54.3	65.84	-11.54	-	-
14	.156	23.77	Av	.2	9.8	33.77	-	-	55.67	-21.9
15	.186	38.08	Pk	.2	9.8	48.08	64.21	-16.13	-	-
16	.189	19.74	Av	.2	9.8	29.74	-	-	54.08	-24.34
17	.591	36	Pk	0	9.8	45.8	56	-10.2	-	-
18	.588	25.97	Av	0	9.8	35.77	-	-	46	-10.23
19	3.168	31.38	Pk	0	9.9	41.28	56	-14.72	-	-
20	3.153	20.16	Av	0	9.8	29.96	-	-	46	-16.04
21	13.59	37.28	Pk	.1	10	47.38	60	-12.62	-	-
22	13.56	13.57	Av	.1	10	23.67	-	-	50	-26.33
23	15.999	24.87	Pk	.1	10.1	35.07	60	-24.93	-	-
24	16.014	14.92	Av	.1	10.1	25.12	-	-	50	-24.88

Pk - Peak detector
Av - Average detection

Note: 13.56MHz is a fundamental frequency of the EUT. Data under the following section 11.3 indicate that when the antenna terminal is terminated the fundamental amplitude is lowering below the limit line.

11.3. NFC – ANTENNA TERMINATED

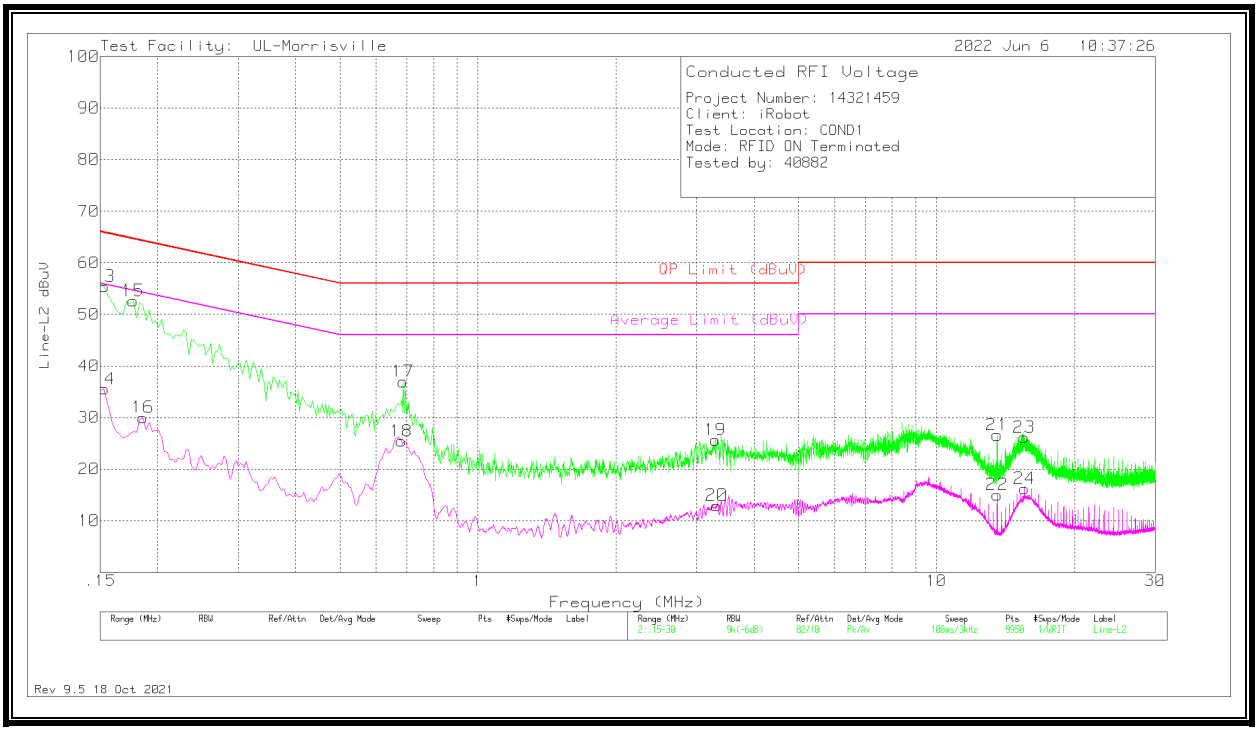
LINE 1 RESULTS



Range 1: Line-L1 .15 - 30MHz										
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN VCF (dB)	Cbl/Limiter (dB)	Corrected Reading dBuV	QP Limit (dBuV)	Margin (dB)	Average Limit (dBuV)	Margin (dB)
1	.156	46.62	Pk	.2	9.8	56.62	65.67	-9.05	-	-
2	.177	22.49	Av	.2	9.8	32.49	-	-	54.63	-22.14
3	.192	43.53	Pk	.2	9.8	53.53	63.95	-10.42	-	-
4	.186	21.36	Av	.2	9.8	31.36	-	-	54.21	-22.85
5	.693	27.71	Pk	0	9.8	37.51	56	-18.49	-	-
6	.681	16.3	Av	0	9.8	26.1	-	-	46	-19.9
7	3.288	14.91	Pk	0	9.9	24.81	56	-31.19	-	-
8	3.294	2.21	Av	0	9.9	12.11	-	-	46	-33.89
9	13.563	15.69	Pk	.1	10	25.79	60	-34.21	-	-
10	13.56	4.93	Av	.1	10	15.03	-	-	50	-34.97
11	15.648	14.02	Pk	.1	10.1	24.22	60	-35.78	-	-
12	15.681	3.18	Av	.1	10.1	13.38	-	-	50	-36.62

Pk - Peak detector
Av - Average detection

LINE 2 RESULT



Range 2: Line-L2 .15 - 30MHz										
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN VCF (dB)	Cbl/Limiter (dB)	Corrected Reading dBuV	QP Limit (dBuV)	Margin (dB)	Average Limit (dBuV)	Margin (dB)
13	.153	45.42	Pk	.2	9.8	55.42	65.84	-10.42	-	-
14	.153	25.54	Av	.2	9.8	35.54	-	-	55.84	-20.3
15	.177	42.62	Pk	.2	9.8	52.62	64.63	-12.01	-	-
16	.186	20	Av	.2	9.8	30	-	-	54.21	-24.21
17	.687	27.16	Pk	0	9.8	36.96	56	-19.04	-	-
18	.681	15.61	Av	0	9.8	25.41	-	-	46	-20.59
19	3.294	15.75	Pk	0	9.9	25.65	56	-30.35	-	-
20	3.318	3.03	Av	0	9.9	12.93	-	-	46	-33.07
21	13.56	16.52	Pk	.1	10	26.62	60	-33.38	-	-
22	13.56	4.92	Av	.1	10	15.02	-	-	50	-34.98
23	15.528	15.94	Pk	.1	10.1	26.14	60	-33.86	-	-
24	15.552	6.01	Av	.1	10.1	16.21	-	-	50	-33.79

Pk - Peak detector
Av - Average detection

12. SETUP PHOTOS

Refer to exhibit R14321459-EP1 for setup photos.

END OF TEST REPORT

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